

Redevelopment of Wildlife Water Catchment 661

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DRAFT

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I. Introduction

The Bureau of Land Management (BLM) and the Arizona Game and Fish Department (AGFD) propose to renovate an existing wildlife water catchment located approximately 12 miles northwest of Tonopah, Arizona (AGFD Catchment No. 661) (figure 1). This catchment is managed by AGFD and is located on lands administered by the BLM Hassayampa Field Office. This catchment, originally constructed over 40 years ago, is intended as supplemental water sources for wildlife, and is located near important habitat for various desert wildlife species. This catchment is located near, but is outside of, the Hummingbird Springs Wilderness. It is located in the NE¼ of the SW¼ of Section 3, T3N, R8W (Hummingbird Springs, Ariz. 7.5' Quadrangle).

This water catchment was originally constructed over 40 years ago. Routine inspections have revealed that because of age-related deterioration the existing water catchment functions poorly and is, as a result, unreliable. Numerous wildlife species rely on this existing water source. The small capacities and outdated design require frequent monitoring and expensive water-hauling trips to ensure sufficient water remains available for wildlife dependent on them.

Purpose and Need for Action and Decision to be Made

The purpose of this project is to renovate the existing water source and increase the storage capacity of this catchment. This would address the need to meet the objectives in the Bradshaw-Harquahala Resource Management plan to maintain or improve wildlife waters to sustain the presence of perennial water for wildlife in the area. The decision to be made is whether or not to renovate Catchment 661 as described in the proposed action.

Land Use Plan Conformance

The Proposed Action conforms to the BLM's *Bradshaw Harquahala Resource Management Plan* (2010) through the following decisions:

WF-10. The density and distribution of wildlife waters will be maintained, improved, or increased throughout the planning areas to sustain and enhance wildlife populations across their range.

WF-11. All existing wildlife waters will be maintained or improved as needed to maintain the presence of perennial water for wildlife.

WF-12. New wildlife waters will be built when needed to maintain, restore, or enhance native wildlife populations or distributions.

WF-13. Reasonable administrative vehicular access will be allowed for AGFD staff to wildlife water facilities for maintenance, repair, or research.

WF-14. Water developments, including those for purposes other than wildlife, will include design features to ensure safe and continued access to water by wildlife.

WF-17. Administrative access will be allowed by law for enforcement and AGFD and USFWS staff for natural resource management. AGFD 's use of motorized and mechanized equipment off designated routes is considered an administrative use and will be allowed in suitable locations (as agreed to by BLM and AGFD) for such purposes including, but not limited to the following:

- water supplementation,
- collar retrieval,
- capture and release of wildlife, and
- maintenance, repair, and building or rebuilding of wildlife waters.

Scoping & Public Participation

Internal scoping occurred during the monthly Phoenix District Office NEPA meeting and during subsequent interdisciplinary team meetings consisting of specialists in range management, cultural resources, recreational resources and wildlife resources. Public participation will occur through posting of the draft EA on the BLM Arizona website during a 30 day comment period. Additionally, a letter was sent to nine interested nongovernmental organizations:

- Arizona Deer Association
- Arizona Desert Bighorn Sheep Society
- Arizona Wildlife Conservation Council (includes approximately 30 sportsman's groups)
- Center for Biological Diversity
- Defenders of Wildlife
- Sierra Club, Grand Canyon Chapter
- The Wilderness Society
- Western Watersheds Project

Issues

Issues are what drive the impact analysis and help to formulate alternatives. The following resource issues were identified by BLM resource staff during the scoping process.

Biological Resources

- How will this project impact special status species?
- How will this project impact native vegetation?
- How will the risk of spreading invasive weeds be minimized?

Cultural Resources

- What will be the impact to cultural resources?

Recreational Resources

- How will this project impact recreational resources?

Soil, Air, and Water Resources

- How will loss of soil be prevented or minimized?
- How will this project impact water resources?

Visual Resources

- How will this project impact visual resources?

Range Management

- How will this project impact rangeland management?

II. Alternatives

Two management actions are presented below, a “Proposed Action” and a “No Action.”

Proposed Action

Under the proposed action, the BLM would allow the Arizona Game and Fish Department to conduct renovations to Catchment No. 661. Specific activities involve the installation of a 100-foot-long water diversion structure approximately 1 foot high, a six inch diameter aboveground water pipeline, four buried 24-inch diameter tube-style water storage tanks, and a new water trough. All features installed as part of the proposed renovation would be painted to match the surrounding landscape and vegetation, hidden from view by vegetation, or placed underground. Proposed renovation activities would improve water storage, minimize leaking, facilitate wildlife ingress and egress, improve water quality, and reduce evaporation. The existing apron and coverings would be painted a desert camouflage to reduce attraction and attention to these facilities. Color recommendations from the BLM Munsell Soil Color Charts include: Sudan Brown (2.5Y 4/2), Brush Brown (10YR 5/3), Desert Brown (10YR 6/3), and Shale Green (5Y 4/2). Desert vegetation would be planted using similar native vegetation growing in the area in a random fashion to detract from any pipelines and other construction scars. All construction activities would take place outside of the Wilderness boundary.

Renovations to this water catchment would be completed using motorized and mechanical tools, including a generator, a welder, a pneumatic drill, an air compressor, a concrete mixer, a metal chop saw, a demolition hammer, and miscellaneous electric hand tools.

Ground disturbance of approximately 0.5 acre would occur at the catchment site. The footprint of the proposed catchment renovation would lie entirely within the current wildlife water enclosure fence. No cacti, agave, yucca, or other plants protected by the Arizona Native Plant Law (Arizona Revised Statutes §§ 3-901 to 3-934) would be affected. Renovation work would be performed by a State-authorized contractor, AGFD staff, or volunteer sportsmen. All activities would occur on lands administered by the BLM Hassayampa Field Office. Renovations would be completed according to the AGFD’s *Arizona Game and Fish Department Wildlife Water Development Standards* (2005), as well as its *Water Development Team 2002/2003 Implementation Plan* (2003).

AGFD would ensure that earthmoving equipment is washed off-site prior to construction activities at each catchment site. Additionally, vehicles and equipment would be inspected for attached vegetation, and all attached vegetation would be removed prior to the vehicles and construction equipment leaving the site.

Prior to construction activities at each catchment site, a biologist would search the construction area for any desert tortoises that might be present so that they may be avoided during construction. AGFD's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* that describe the procedures for handling desert tortoises are included in Appendix A for use in relocating any desert tortoises encountered during construction out of harm's way.

Renovation activities would occur during times of low water demand from wildlife (September 1–May 1). Construction-material staging and storage would occur adjacent to the water catchment for approximately 1–2 weeks. The staging sites would be designated by the AGFD in coordination with the BLM. Construction activities would occur between 5:00 am and 7:00 pm each day.

If cultural resources are discovered during construction activities, construction will be halted and BLM Archaeology staff will be contacted so that construction personnel can receive instructions on how to avoid, minimize or mitigate impacts.

Camping, if necessary, would occur using Leave No Trace skills and ethics. If volunteers assist with renovation activities, up to 30 people would occupy dispersed campsites. Approximately 10 vehicles, 2 material trailers, and 6 camp trailers would be located at the camping area during catchment renovations. Campfires would occur only when fire restrictions allow. No vegetation removal or firewood cutting would occur, campsites would be established only on previously disturbed, durable surfaces and would be cleaned and raked when the project is complete to remove signs of human habitation, and all waste will be removed from the site.

The Proposed Action includes monitoring and long-term maintenance activities. These activities include inspections to ensure adequate water levels, assessment and repair of facility wear and damage, and performance of other minor maintenance activities. Maintenance activities would occur approximately three times per year; however, this maintenance schedule may fluctuate depending on weather conditions, volume of animal use, and unexpected damage to the catchments. Access to the catchment would be on existing roads. Vehicles used to access the catchment are pickup trucks and larger water hauling trucks if needed.

No Action

Under the No Action Alternative, no new construction, renovation, or upgrading would occur at the catchment location and there would be no new ground disturbance (temporary or long-term). It is anticipated that this catchment would continue to degrade over time; AGFD would continue to haul water to, and maintain, this facility at increasing frequencies, and there would be an increasing likelihood of this water failing from time to time, depriving wildlife in the local area of an important water source.

Alternatives Considered but Eliminated From Detailed Analysis

None.

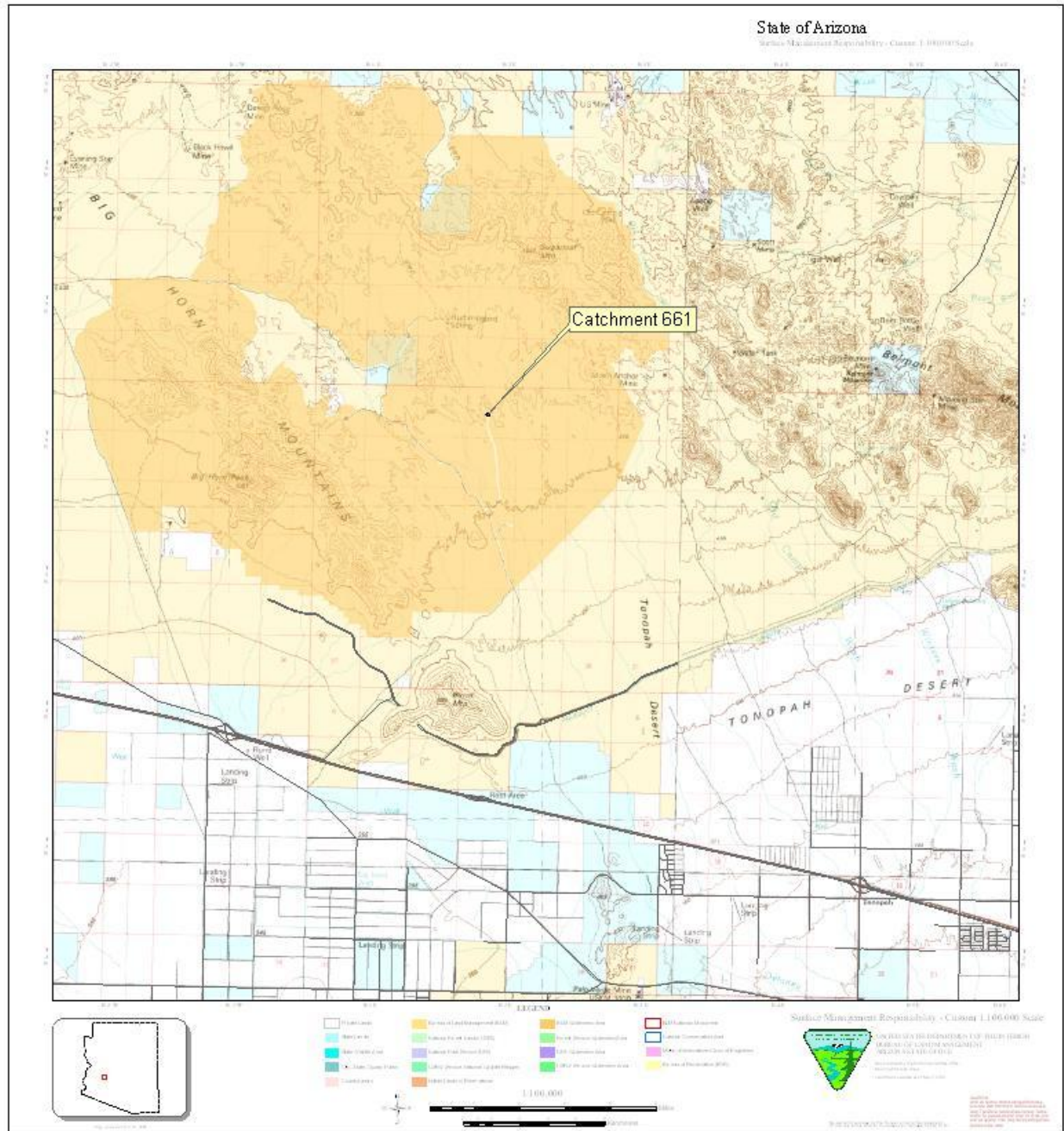


Figure 1. Vicinity map of Catchment No. 661. Catchment No. 661 is surrounded by, but located outside of, Hummingbird Springs Wilderness Area.

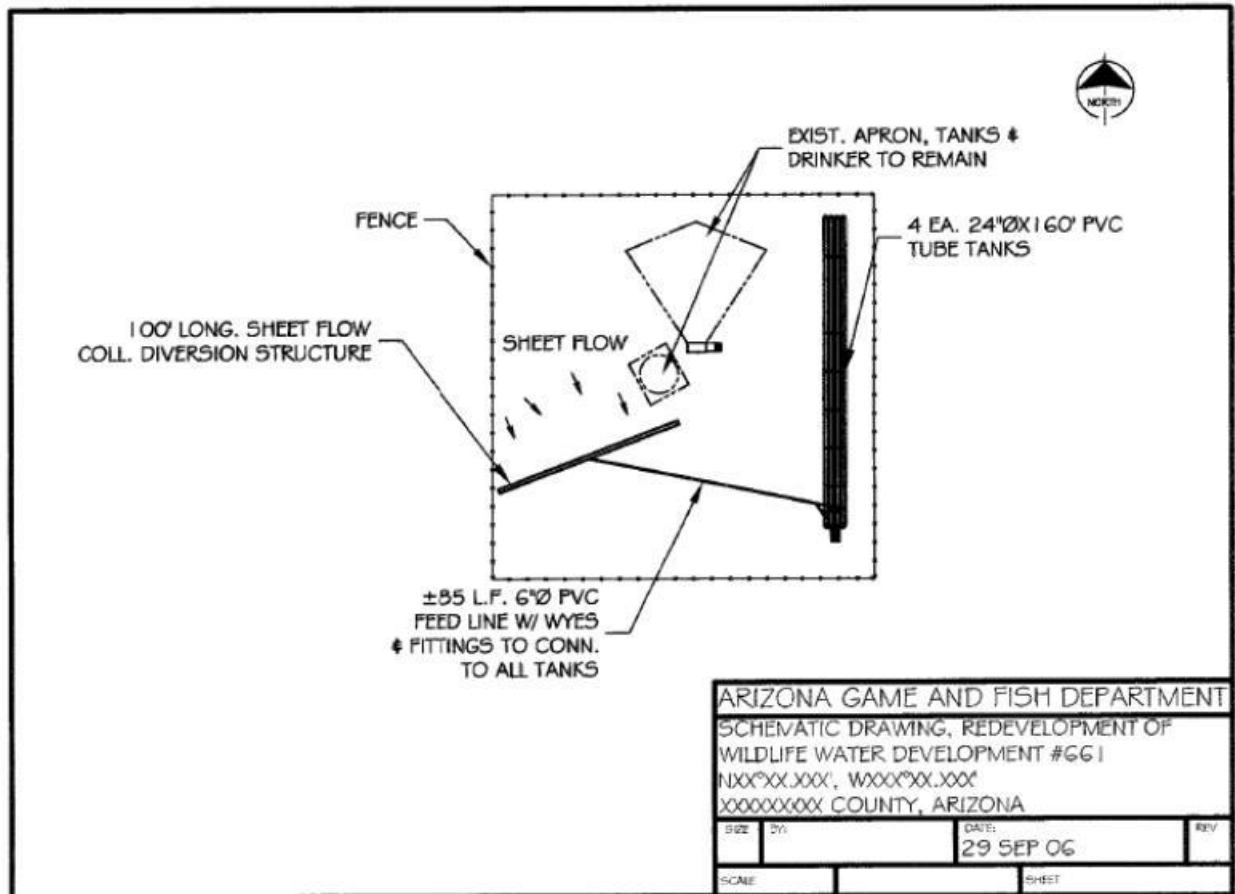


Figure 4. Schematic drawing of Catchment No. 661.



Figure 5. Photo of existing water catchment facilities at the Catchment No. 661 site (looking north).



Figure 6. Photo of existing water catchment facilities at the Catchment No. 661 site (looking south).



Figure 7. Example of a masonry collection/diversion structure at a different water catchment on the Hassayampa Field Office.



Figure 8. Example of a wildlife watering trough and buried tank at a different water catchment on the Hassayampa Field Office.

III. Affected Environment & Environmental Consequences

This chapter describes the present environment (i.e., affected environment) in the project area and changes that would be anticipated as a result of the project alternatives, if implemented. Direct, indirect, and cumulative impacts are considered. Indirect effects are those effects that are caused by or would result from an alternative and are later in time or in a different location, but are still reasonably certain to occur. Cumulative impacts are those that include effects from past, present, or reasonably foreseeable future actions within the project area, when added to any one of the alternatives.

Activities associated with the Proposed Action would include annual maintenance and water hauling trips to each of the catchment locations. These activities would occur at the same location as the proposed renovation activities, but they would take place later in time. Therefore, under Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR], Part 1508 §1508.8), any potential environmental impacts that would result from the annual maintenance and water hauling activities would constitute an indirect impact.

Definition of Terms

Common terms used to describe potential environmental impacts are defined as follows:

- **Adverse:** The effect is negative on a particular resource or a number of resources. *In this document, the term impact is assumed to be adverse unless otherwise stated.*
- **Beneficial:** The effect is positive effects on a particular resource or a number of resources.
- **Direct:** The effect which is caused by the action and occur at the same time and place.
- **Indirect:** The effect which is caused by the action and is later in time or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth-inducing effects, and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems.
- **Cumulative:** Effects that result from the incremental effect of an action when considered with other past, present, and reasonably foreseeable future actions.
- **Negligible:** The effect is at the lower level of detection; change would be difficult to measure.
- **Minor:** The effect might result in a slight but detectable change but would not be expected to have an overall effect.
- **Moderate:** The effect would likely result in a measureable change and could have an appreciable effect.
- **Major:** The effect would likely result in a substantial change.
- **Short-Term:** The effect occurs only for a short-time (during construction) after implementation of the action.

- **Long-Term:** The effect occurs for an extended period (more than 5 years) after implementation of the action.

Cumulative Actions

The CEQ defines cumulative effects (also known as cumulative impacts) as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what (federal or non-federal) agency or person undertakes such actions” (40 CFR 1508.7).

The intensity, or severity, of the cumulative effects considers the magnitude, geographic extent, duration, and frequency of the effects. The magnitude of the effect reflects the relative size or amount of the effect; the geographic extent considers how widespread the effect may be; and the duration and frequency refer to whether the effect is a one-time, intermittent, or chronic event.

Past Actions

Past actions in the area surrounding the project area include grazing, mineral exploration, primitive road construction and both vehicular and horseback travel, as well as hunting.

Present Actions

The area surrounding the proposed wildlife water development is used for several different purposes. Most of the area is grazed by domestic livestock. In addition, much of the area also receives use by native wildlife including desert bighorn sheep and mule deer. Recreation activities in the surrounding area include dispersed recreation, camping, hunting, and horseback riding.

Reasonably Foreseeable Future Actions

The reasonably foreseeable future actions (RFFAs) in the vicinity of the project area include recreational use, livestock grazing and wildland fire.

Soils

Existing Environment

Soils at Catchment No. 661 are of the Gunsight-Rillito-Pinal Association; these soils are “deep and shallow, limy, gravelly, medium and moderately coarse-textured, nearly level to strongly sloping soils on alluvial surfaces and valley plains” (Hendricks 1985). This association occurs at elevations of 400 to 2,400 feet above msl, mostly on slopes from 0 to 5 percent (Hendricks 1985).

Environmental Consequences

Proposed Action

Direct impacts to soils associated with the Proposed Action would be the disturbance of approximately 0.5 acre of soil at the catchment site. Soil disturbance would result from excavation for the installation of the new tank and walk-in trough; trenching required for installation of pipelines; postholes required for the pipe-rail fence; and, excavation activities to construct the small, masonry dam.

Soil disturbance would be limited to the previously disturbed catchment area. No excavation would be required for PVC pipe connecting the masonry dam to the catchments because all piping outside of the existing catchment area would be above ground.

Excavated material would be spread on the ground near the tank and apron or used as fill material. Following implementation of the Proposed Action the BLM would determine if reseeding of the area would be necessary to reduce soil erosion. If reseeding were required, a BLM approved native seed mix would be used.

No Action Alternative

Under the No Action Alternative, long-term soil disturbance associated with accessing the catchment sites for water hauling and inspections would continue. Therefore the No Action Alternative would have minor direct, indirect, and cumulative impacts to soils.

Vegetation

Existing Environment

All of the catchments occur within the Arizona Uplands of the Sonoran Desertscrub Biotic Community (Turner and Brown 1994), which is characterized by high temperatures and generally low precipitation. Vegetation in the vicinity of Catchment no. 661 includes a combination of paloverde (*Parkinsonia* spp.), ironwood (*Olneya tesota*), and mesquite (*Prosopis* spp.) trees; ocotillo (*Fouquieria splendens*); saguaro (*Carnegiea gigantea*), cholla (*Cylindropuntia* spp.), and hedgehog (*Echinocereus* spp.) cacti; creosote (*Larrea tridentata*), bursage (*Ambrosia* spp.), and a variety of other shrubs and grasses.

Environmental Consequences

Proposed Action

Construction activities would remove disturb approximately 0.5 acres of the above-mentioned vegetation at the catchment site. The renovations have been designed to minimize impacts to vegetation. In addition, construction activities would be conducted in a manner that minimizes disturbance to existing vegetation. In most cases, disturbance to vegetation during construction would consist of the loss of small shrubs and annuals. If removal of individual trees or cacti protected under the Arizona Native Plant Law (Arizona Revised Statute §§ 3-901–3-934) were necessary, they would be replanted in the immediate area from which they would be removed. Continued hauling of water to the existing facilities and ongoing maintenance activities would intermittently result in minor trampling of vegetation within and adjacent to the existing catchment site, but the increase in water storage capacity would reduce the frequency of water hauling trips.

Because invasive species seed is spread partially through the movements of people and vehicles between infested and weed-free sites, the mobilization of construction equipment, vehicles, and workers could potentially result in the spread of invasive species. With the Proposed Action, the required number of water hauling trips would be reduced, which would decrease the long-term potential for transport of invasive species to the catchment sites.

No Action Alternative

Under the No Action Alternative, no disturbance to vegetation would occur through construction activities. However, continued hauling of water to, and maintenance of, the existing facilities would intermittently result in minor trampling of vegetation within and adjacent to the existing catchment site and provide additional opportunities for the spread of invasive species seed.

Wildlife

Existing Environment

The lack of development at the catchment site provides for unrestricted wildlife movement, as well as connectivity between diverse habitat types used for foraging, cover, and reproduction. The increased topographic and structural diversity from the hills and mountains in proximity to the catchment site allows for a greater diversity of wildlife species compared to open desert areas. Wildlife likely to occur at this site includes mule deer (*Odocoileus hemionus*), javelina (*Pecari tajacu*), bighorn sheep (*Ovis Canadensis*), mountain lion (*Puma concolor*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), Sonoran desert tortoise (Sonoran population) (*Gopherus agassizii*), and a variety of small mammals, birds and reptiles.

Environmental Consequences

Proposed Action

Direct impacts to wildlife from the Proposed Action would be the temporary disturbance of approximately 0.5 acre of habitat at the catchment site. This is a negligible loss of habitat compared to the relative amount of habitat available in the surrounding landscape. Minor disturbance to wildlife may occur during renovation and maintenance activities that are expected to last approximately one to two weeks, and could temporarily displace wildlife occupying the area, especially ground-dwelling small mammals and reptiles. Long-term impacts to wildlife would be beneficial through providing a more reliable water source.

Disturbance from water hauling and maintenance activities would be reduced following renovations at the catchment site. The renovation activities would not relocate the existing catchment site; therefore, the distribution and availability of water in these areas would not be altered. Site-specific design would minimize impacts to existing vegetation and would ensure safe wildlife access to the water source; additionally, the distribution and availability of water would not be altered by the proposed renovations. Therefore, no impacts to migratory birds would be anticipated. The Proposed Action would have minor direct, indirect, and cumulative impacts on wildlife.

No Action Alternative

Under the No Action Alternative, no construction activities and, therefore, no additional site disturbance would occur. Continued hauling of water to, and maintenance of, the existing facilities would intermittently result in minor, temporary disturbance to wildlife. The No Action Alternative would, therefore, have minor, site-specific, direct and indirect impacts on wildlife resulting from ongoing maintenance activities. The distribution and availability of water would not be altered under the No Action Alternative; therefore, no direct, indirect, or cumulative impacts to migratory birds would be anticipated with this alternative.

Threatened, Endangered, or Special Status Species

Existing Environment

In compliance with the Endangered Species Act (ESA), the US Fish and Wildlife Service (USFWS) list of threatened, endangered, proposed, candidate, and conservation agreement species potentially occurring in Maricopa and Pima counties was obtained and reviewed. In addition, AGFD provided a list of special status species (federally listed threatened or endangered, and BLM sensitive species) that have been documented as occurring within 3 miles of the catchment site. Based on the presence of suitable habitat and/or historical records of occurrence, the following species were evaluated: Sonoran desert tortoise (Sonoran population) (*Gopherus agassizii*).

Sonoran desert tortoise

The Sonoran desert tortoise occurs on rocky slopes and bajadas in Sonoran desertscrub throughout central, southern, and western Arizona. While rocky slopes are the preferred habitat of the Sonoran population of desert tortoise, tortoises may also be present in low densities on lower bajadas and along washes. Catchment 661 occurs within Category II desert tortoise habitat, as designated by the Bureau of Land Management.

Environmental Consequences

Proposed Action

Sonoran desert tortoise

Andrew et al. (2001) found that artificial waters in the Sonoran desert of southeastern California did not pose a serious drowning hazard to desert tortoises or other wildlife species. The proposed catchment designs are similar to the design that was studied by Andrew et al. Because any desert tortoises present in the construction area can be safely relocated and because the catchments do not pose a serious drowning threat to tortoises, it is unlikely that the proposed renovations would result in direct mortality to desert tortoises. The renovation would result in the loss of approximately 0.5 acres of foraging habitat until the vegetation at catchment footprint reclaimed.

No Action Alternative

There would be no construction activities resulting in additional site disturbance under the No Action Alternative; therefore, no desert tortoise habitat would be impacted. Continued hauling of water to, and maintenance of, the existing facilities could result in minor, temporary disturbance to desert tortoise. The No Action Alternative would therefore have minor direct, indirect, or cumulative impacts resulting from ongoing maintenance activities.

Recreation

Existing Environment

This Catchment is within the Semi-primitive Motorized Recreational Opportunity Spectrum (ROS) (BLM 2010). This classification is applied to areas having some isolation from the sights and sounds of people, and having a high degree of interaction with the natural environment. It is typically located in

unmodified natural environments with a concentration of users between 7 – 14 contacts with other groups. Some activities include hunting, climbing, enjoying scenery or natural features, nature study, photography, OHV, backcountry driving, mountain biking, and hiking (BLM 2010).

Environmental Consequences

Proposed Action

The Proposed Action would continue to meet management objectives for Semi-primitive Motorized ROS classifications. Activities include hiking, mountain biking, hunting, and photography, as well as an opportunity to interact with the natural environment. Disturbance to the recreating public would occur during catchment renovations and renovations would occur during cooler months (September 1–May 1), at times when hunting seasons are in effect and cooler temperatures are present resulting in more recreation activity on public lands. Disturbance would include an increase in noise and dust in the area for approximately 1–2 weeks at the catchment site. This disturbance would be temporary and would be confined to the existing catchment area (approximately four acres). Up to 14 days of disturbance to the recreating public would be expected during the renovation activities. Access to the wilderness may be hampered by the amount of transportation vehicles, construction/heavy equipment vehicles, and equipment/supplies occupying the area. Visitor parking may be an inconvenience for the visitor and the work crews. This alternative will reduce the frequency of water hauling trucks needed to service the existing site which will give the visitor more days to enjoy the peace and quiet of the area.

While localized noise and dust generated from construction activities associated with the Proposed Action would result in temporary negative impacts to recreational use in the project site, the reduced need for water hauling trips would reduce the already minimal recreational distractions caused by water hauling equipment. The Proposed Action would, therefore, have minor direct, indirect, and cumulative impacts on recreation.

No Action Alternative

Under the No Action Alternative, no construction would occur. Disturbance to recreational users would continue as a result of continuing water hauling and maintenance activities. The No Action Alternative would have no change on the direct, indirect, or cumulative impacts on recreation.

Visual Resources

Existing Environment

Catchment No. 661 is rated as Class II within the BLM's Visual Resource Management classification system. . The objective of Class II is to "retain the existing character of the landscape." This class provides for ecological changes and allows only limited management activities, in that the "level of change to the characteristic landscape should be low and must not attract attention" (BLM 2005).

This catchment site is located in a large area of undeveloped, predominantly undisturbed Sonoran Desert, adjacent to buttes and foothills near larger mountain ranges. Catchment No. 661 is located in a broad expansive undisturbed desert valley. Views from this catchment are of the surrounding valley and

distant mountains, buttes, and ridges. The structures associated with the existing catchment are visible to the casual observer. These structures include large rain collection aprons and drink basins.

Environmental Consequences

Proposed Action

Short-term direct impacts to visual resources associated with the Proposed Action would occur from the soil and vegetation disturbance that would be apparent at the catchment site during and immediately following renovation activities. Vegetation would reclaim the site and the visual quality of the site would return to existing conditions. Airborne dust would be visible during renovation activities at the catchment site due to the increased use of motorized vehicles and equipment. This would also be temporary and would cease once renovation activities are complete. Design features included in the catchment renovation would use native materials and/or paint colors that would blend in with the surrounding landscape, and reasonable efforts would be made to transplant removed vegetation.

Renovations at Catchment No. 661 would meet the VRM Class II objectives. No indirect or cumulative impacts were identified.

No Action Alternative

Because no renovation activities would occur with the No Action Alternative, this alternative would have no direct, indirect, or cumulative impact on the existing visual character. Because the No Action Alternative would not change the characteristic landscapes of the project area, this alternative would meet the VRM objectives at each of the catchment sites.

Cultural Resources

Existing Environment

A Class III cultural resources survey was conducted within the 4-acre area around the catchment location in 2006, and was reported in *A Cultural Resources Survey of 48 Acres for 12 Water Catchment Basins, Maricopa and Pima Counties, Arizona* (Logan Simpson Design Inc. 2006). The survey was completed in compliance with the requirements set forth in ARS § 41-861 et. seq., the Arizona State Historic Preservation Act, and with 36 CFR § 800 (as revised in 2000), the regulations implementing Section 106 of the National Historic Preservation Act. During this survey, a single isolated occurrence of artifacts (IO) was identified within a 4.6-m area. It consists of two secondary flakes and one tertiary flake, all of banded gray rhyolite. The IO represents prehistoric activity in the area, but age and cultural affiliation is unknown. The IO is not considered eligible for inclusion in the NRHP; it has been fully recorded and no further work is necessary.

Environmental Consequences

Proposed Action

Because no significant cultural resources were found at the Catchment No. 661 site, the Proposed Action should have negligible direct, indirect, or cumulative impacts to cultural resources.

No Action Alternative

The No Action Alternative would not require construction activities, but hauling of water to the existing facility would continue to disturb some of the surrounding area. Because no significant cultural resources were found at the catchment site, it is unlikely that there would be any direct, indirect or cumulative impacts to cultural resources at this location.

IV. Tribes, Individuals, Organizations or Agencies Consulted

- Arizona Game and Fish Department
- Arizona Department of Recreation Management and Tourism

V. List of Preparers

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VI. References

Andrew, N. G., V. C. Bleich, A. D. Morrison, L. M. Lesicka, and P. J. Cooley. 2001. "Wildlife mortalities associated with artificial water sources." *Wildlife Society Bulletin* 29(1):275-280.

Arizona Game and Fish Department. 2001. *Wildlife Program Management Strategic Plan for the Years 2001 – 2006*. Arizona Game and Fish Department, Phoenix, Arizona.

- . 2003. *Water Development Team 2002/2003 Implementation Plan*. Arizona Department of Fish and Game, Phoenix.
- . 2005. *Arizona Game and Fish Department Wildlife Water Development Standards*. Arizona Game and Fish Department, Phoenix.
- Bureau of Land Management. 2010. *Bradshaw-Harquhala Record of Decision and Approved Resource Management Plan*. Hassayampa Field Office, Phoenix, Arizona.
- Hendricks, D. 1985. *Arizona Soils*. University of Arizona College of Agriculture. Tucson, Arizona.
- Hoffmeister, Donald F. 1986. *Mammals of Arizona*. The University of Arizona Press Tucson, Arizona, and the Arizona Game and Fish Department, Phoenix.
- Logan Simpson Design. 2006. *A Cultural Resources Survey of 48 Acres for 12 Water Catchment Basins, Maricopa and Pima Counties, Arizona*. Tempe, Arizona.
- Turner, R. M., and D. E. Brown. 1994. "Sonoran Desertscrub." In *Biotic Communities: Southwestern United States and Northwestern Mexico*, edited by D. E. Brown, 181–221. University of Utah Press, Salt Lake City.